

REMARKS

Reconsideration of the present application is respectfully solicited in view of the foregoing amendments and the following remarks.

The present invention relates to a driver information system comprising an operating device having at least two operational control units and a holding unit for the operational control units, and a control device for validating control signals delivered by the operational control units.

Driver information systems are widely employed in a variety of different vehicles. They not only serve to display navigation information but have evolved towards a central operational and control device by which a plurality of components in the vehicle may be controlled. The operation itself is carried out in many cases by means of a central operational control unit, like a multi-functional rotary push button. In addition to such rotary push buttons further operational control units such as switches, toggle switches and the like may be provided, particularly for allowing fast navigation within hierarchically structured menus.

The operational control units, namely switches and rotary push buttons, are generally located in the middle part of a dashboard or console between the driver and passenger so that the operational control units may be reached easily by the driver.

Although present driver information systems are reliable, there is a demand for greater customization in dashboard design without causing higher costs for custom-made parts.

It is therefore an object of the present invention to fulfill this demand. This object is solved by a driver information system wherein the individual operational control units are freely configurable with respect to operational control slots in the holding device.

In other words, the operating device is constructed of independent operational control units, like switches, rotary push buttons, etc., which may be inserted within the holding unit at different locations, referred to as slots. The present invention is therefore designed as a modular system so that allows the user to customize the arrangement of the various operational control units according to his own needs and desires. Moreover, due to its modular design, the present driver information system also permits rapid replacement of operational control units, whether due to a defect or because the user wants another type of operational control unit. Thus, for example, the present driver information system offers the user the option of replacing a rotary push button with a rocker switch.

In addition, the modular configuration of the present invention also enables the user to readily change the positions of the individual operational control units. In order to avoid any re-wiring work when replacing or repositioning certain operational control units, transmitting and receiving units are provided so that a data link between the transmitting unit and the receiving unit may be established to send the control signals to the operating device.

The data link between the transmitting unit and the receiving unit is preferably based on wireless technology, such as optical or radio frequency transmission techniques.

Claims 1-3, 10 and 12 of the present application stand rejected under 35 U.S.C. § 102(e) as being anticipated by Gortz et al., (U.S. 6,629,183). Gortz et al. disclose an interface device for transmitting information between input/output means, which are commonly used in information and/or communication systems in motor vehicles. It is further pointed out that for the purpose of inputting and outputting information, in particular for setting and operating individual application units, the user interfaces have rotary actuators, keys and/or push buttons with specifically assigned functions, alphanumeric keyboards, selector keys and/or voice input means for inputting voice, commands, etc. As shown in Fig. 2 of this document, the interface circuit 14 comprises a structure interface 20 which is connected on the user side to a tactile/haptic driver interface 21, an audio driver interface 22 and a video driver interface 23. The tactile/haptic driver interface 21 serves chiefly to convert input data which are input via a tactile/haptic input means 12.1, for example a rotary/push button actuator. For the acoustic input of data, a microphone 12.2, which is connected to the audio driver interface 22 is provided as the acoustic input means. For the purpose of inputting information optically, an optical receiver device is provided, for example a video camera 12.3, which is connected to the video driver interface 23.

Finally, a display screen 13.1 is provided for displaying output data.

Although Gortz et al. disclose a driver information system comprising an operating device having at least two operational control units (for example the rotary push button 12.1 and the microphone 12.2), it fails to disclose a holding unit with a number of operational control slots each adapted to receive one of the operational control units. Moreover, Gortz et al. fail to disclose or suggest that the operational

control units are freely arrangeable with respect to the slots of the holding device. Contrary to the statement in paragraph 3 of the Office Action, there is nothing in Figure 2 of Gortz et al. to suggest that the operational control units are freely arrangeable with respect to the holding device.

Claim 1 has been amended to expressly recite these distinctions.

Therefore, the subject matter as defined in independent claim 1 is clearly not anticipated by Gortz et al.

With respect to independent claim 12, the Examiner asserts that each of the operational control units in Gortz et al. comprises a transmitting unit for transmitting control signals wirelessly and refers to column 2, lines 61-64, column 4, lines 13-15 and claim 5 of Gortz et al. Applicant respectfully disagrees with the Examiner's interpretation of Gortz et al. Claim 5 of Gortz teaches that an appropriate driver interface is provided both for optical and acoustic and for tactile/haptic input/output means.

In addition, the description at column 2, lines 61-64 only refers to the way the input is made, namely optically, for example via a camera or acoustically, for example, via a microphone, etc. However, Gortz et al. does not disclose how the transmission between the A/D converter 26 and the interface 23 is carried out. In short, there is absolutely no teaching or suggestion in Gortz et al. to use wireless transmission of signals between the microphone 12.2 and the A/D converter 26, for example, and the interface 22.

Therefore, the subject matter as defined in present claim 12 is clearly not anticipated by Gortz et al.

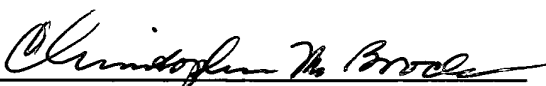
Claims 4, 5, 8 and 13 of the present application stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gortz et al. in view of Weisshaar et al. (U.S. 6,947,760). With respect to the rejection of independent claim 13, the same deficiencies noted above in the Gortz et al. reference, as applied to independent claims 1 and 12, apply equally to claim 13. The Weisshaar reference does not obviate these deficiencies. Weisshaar merely discloses a method of optimizing the transmission of data in a wireless communication network. However, it does not refer to a driver information system used in vehicles nor does it describe operational control units with an optical transmission capability. It is true that the optical transmission of data is well known in the art, but it is not known in the context of driver information systems nor with operational control units, like rotary push buttons, toggle switches, etc.

Finally, independent claim 14 stands rejected under 35 U.S.C. § 103 (a) as being unpatentable over Gortz et al. in view of Remes et al. (U.S. 4,366,482). Again, the deficiencies in the Gortz et al. reference noted above also apply to independent claim 14 which expressly recites that the operational control units are “freely arrangeable with respect to the slots of the holding device.” Moreover, the Remes et al. reference merely discloses the possibility of transmitting data via radio frequency signals. Remes et al. does not disclose the transmission of radio frequency signals from an operational control unit to an operating device in a driver information system. Accordingly, claim 14 is also believed to clearly present patentable subject matter.

Pending claims 1, 3-5 and 7-14 are therefore believed to be in condition for allowance. Favorable reconsideration is respectfully solicited.

Respectfully submitted,

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